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IN THE ABSTRACT

Please amend the Abstract as follows:

A method of clustering communication nodes based on network attributes such as network delays and forwarding capacity; on communication interest attributes; and on application attributes such as quality of service preferences/constraints (e.g. end-to-end-delay constraints, bandwidth constraints) in providing communications between users and application servers. A multi-attribute communication feature vector is formed. That vector is comprised of network attributes (such as available bandwidth, client location attributes in the IP map), communication interests attributes, (client-request for content updates, client subscription to specific data items or to a set of proximal data sources in notwork space or application/virtual space) and quality of service requirements (such as delay and loss constraints and is used to from form efficient group communication mechanisms for distributed collaborative applications. Then the multi-attribute communication feature vectors are clustered. The clustering methods for multi-type attribute feature vectors are: iterative clustering using a generalized distance space with normalized attribute subspace metrics; fusion clustering, and nested clustering.